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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/822,647	03/30/2001	Kazushi Wada	09792909-4799	7645

26263 7590 01/09/2002

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EXAMINER

SOWARD, IDA M

ART UNIT PAPER NUMBER

2822

DATE MAILED: 01/09/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/822,647

Applicant(s)

WADA, KAZUSHI

Examiner

Ida M Soward

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 March 2001.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s) _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

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DETAILED ACTION

1. This office action is in response to the application filed on March 30, 2001.

Priority

2. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-3 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Frequency has the units of Hertz (Hz). Therefore, it is unclear whether the applicant's invention is frequency of 400 Hz, wavelength of 400 nm, or some other parameter.

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Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-2 are rejected under 35 U.S.C. 103(a) as being unpatentable over Higashide (5,621,461) in view of Lin et al. (5,851,881).

As best taught and understood for the purpose of compact prosecution, Higashide teaches a solid state imaging device have a gate **50** including an oxide film comprising: upper layer films allowing light to pass through; a metal made shield film **53** formed in such a manner as to cover a region of the gate structure including an oxide film, excluding a light receiving portion and a transfer portion (Figure 2B) of the solid state imaging device, wherein the metal made shield film has an opening at a position directly over a floating diffusion region **52** of the solid state imaging device (Figure 5A). However, Higashide fails to teach a nitride layer. Lin et al. teach a nitride layer **41** providing electrical insulation on substrate **10** (Figure 1L, abstract). Also, it is not inventive to point out particular range of conditions or optimum working ranges if what is involved is nothing more than skill of mechanic and exercise of patient experimentation; patentee simply cannot designate range in a known processs and maintain monopoly on processes within that range on grounds that it produces optimum results. Duplan Corp. V. Deering Milliken, Inc., 444 F.Supp.

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648 (D.C. S.C. 1977). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize the teachings of Higashide with that of Lin et al. to improve the insulation properties of the device.

Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Higashide (5,621,461) and Lin et al. (5,851,881) as applied to claims 1-2 above, and further in view of Haga et al. (5,140,397).

Higashide and Lin et al. fail to teach an organic film capable of absorbing rays. Haga et al. teach an organic film 11 capable of absorbing rays (Figure 3, col. 6, lines 1-19). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize the teachings of Higashide and Lin et al. with that of Haga et al. to provide a heightened sensitivity to the rays.

Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

The following patents are cited to further show the state of the art with respect to imaging devices with a gate structure in general:

Kingsley et al. (5,187,369)

Yonemoto (5,684,312)

Ueno (5,773,859)

Koike et al. (4,143,389)

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Higashi et al. (4,694,317)

Yamashita et al. (5,343,061)

The following patent is cited to further show the state of the art with respect to imaging devices with a gate structure and nitride film:

Anagnostopoulos et al. (5,798,542)

The following patent is cited to further show the state of the art with respect to imaging devices with a gate structure and an organic film:

Kawada et al. (5,158,619)

The following patent is cited to further show the state of the art with respect to imaging devices with a gate structure and a shield film:

Isogai (5,847,381)

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ida M. Soward whose telephone number is (703) 305-3308. The examiner can normally be reached on Monday through Friday, from 7:30 am to 4:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Carl Whitehead, can be reached at (703) 308-4940. The Group fax number is (703) 308-7722.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-0956.

ims

January 2, 2002



**CARL WHITEHEAD, JR.
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